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Amendments to the Claims:

1. (currently amended) Method for functionalizing polysaccharides using a ~~physical~~ or chemical source of free radicals, which forms stable radicals on a polysaccharide structure wherein at least one of the formed radicals reacts with a functionalized olefin, comprising:

 a first step, wherein a free radical on a polysaccharide chain is formed, and
 a second step, wherein said radical reacts with an olefin in the absence of a radical source; wherein

 the polysaccharide is in the form of a fiber;

 the amount of functional groups introduced in the polysaccharide is between 10^{-3} and 2 mol olefin/eq anhydrous glucose; and

~~the physical source is electron beam radiation, and the chemical source is~~
Fenton's reagent.

2 - 3. (canceled)

4. (previously presented) Method according to claim 1, wherein the polysaccharide is selected from the group consisting of flax fibers, cellulose, viscose and cotton fibers.

5. (previously presented) Method according to claim 4, wherein the polysaccharide is used together with one or more natural or synthetic fibers.

6. (previously presented) Method according to claim 5, wherein the natural or synthetic fibers are selected from silk, polyamide, polyester, polyacrylate and polyolefin.

7 - 9. (canceled)

10. (previously presented) Method according to claim 1, wherein the stable radicals have a half-life of about 1 day.

11 - 12. (canceled)

13. (currently amended) Process for the preparation of functionalized polysaccharides or polymer fibers comprising:

a) forming stable radicals on a polysaccharide from a ~~physical or~~ chemical free radical source wherein ~~the physical source is electron beam radiation, and~~ the chemical source is Fenton's reagent; and

b) reacting, in the absence of the free radical source, an olefin containing a functional group with the stable radicals on the polysaccharide.

14. (canceled)

15. (previously presented) Method according to claim 1, wherein the amount of functional groups introduced in the polysaccharide is between 10^{-2} and 1 mol olefin/eq anhydrous glucose.